

## EAST Search History

### EAST Search History (Prior Art)

| Ref # | Hits | Search Query  | DBs                | Default Operator | Plurals | Time Stamp          |
|-------|------|---|--------------------|------------------|---------|---------------------|
| S1    | 1    | "20020028349"   | US-PGPUB;<br>USPAT | OR               | OFF     | 2009/10/27<br>18:17 |
| S2    | 80   | (hole adj3 injection adj layer) with conduct\$7 with thickness  | US-PGPUB;<br>USPAT | OR               | ON      | 2009/10/27<br>18:20 |
| S3    | 64   | gradient with (hole adj2 (inject\$3 or transpot\$3))  | US-PGPUB;<br>USPAT | ADJ              | OFF     | 2009/10/28<br>11:18 |
| S4    | 13   | gradient with (organic with hole adj2 (inject\$3 or transpot\$3))   | US-PGPUB;<br>USPAT | ADJ              | ON      | 2009/10/28<br>11:33 |
| S5    | 10   | (tunable or gradient) with (organic with hole adj2 (inject\$3 or transpot\$3)) with (thickness or concentration)              | US-PGPUB;<br>USPAT | ADJ              | ON      | 2009/10/28<br>12:06 |
| S6    | 1    | "7151339".pn.   | US-PGPUB;<br>USPAT | ADJ              | ON      | 2009/10/28<br>12:09 |
| S7    | 3    | (tunable or gradient) with (organic with hole adj2 (inject\$3 or transpot\$3)) with (thickness or concentration)              | DERWENT            | ADJ              | ON      | 2009/10/28<br>12:20 |
| S8    | 192  | (tunable or gradient) with (thickness or concentration) with ((charge adj2 mobil\$3) or conduct\$6)                           | DERWENT            | ADJ              | ON      | 2009/10/28<br>12:23 |
| S9    | 0    | (tunable or gradient) with (thickness or concentration) with ((charge adj2 mobil\$3) or conduct\$6) and (hole adj2 inject\$7) | DERWENT            | ADJ              | ON      | 2009/10/28<br>12:23 |
| S10   | 358  | (tunable or gradient) with (thickness or concentration) with ((charge adj2 mobil\$3) or conduct\$6) and (hole adj2 inject\$7) | US-PGPUB;<br>USPAT | ADJ              | ON      | 2009/10/28<br>12:24 |

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| S11 | 0   | (tunable or gradient) with (thickness or concentration) with ((charge adj2 mobil\$3) or conduct\$6) with (hole adj2 inject\$7)                       | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:24 |
| S12 | 581 | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) and (thickness or concentration) and (hole adj2 inject\$7)                         | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:25 |
| S13 | 358 | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with (thickness or concentration) and (hole adj2 inject\$7)                        | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:25 |
| S14 | 0   | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with (thickness or concentration) with (hole adj2 inject\$7)                       | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:25 |
| S15 | 0   | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with (thickness or concentration) near10 (hole adj2 inject\$7)                     | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:25 |
| S16 | 94  | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with (thickness or concentration) and (hole adj2 inject\$7) and electroluminescent | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 12:26 |
| S17 | 2   | "20050037234"  | US-PGPUB; USPAT | OR  | OFF | 2009/10/28 13:37 |
| S18 | 2   | "20050168137"  | US-PGPUB; USPAT | OR  | OFF | 2009/10/28 14:36 |
| S19 | 7   | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with (thickness or concentration) and (hole adj2 inject\$7) and TCNQ               | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 14:52 |
| S20 | 0   | (tunable or gradient) with ((charge adj2 mobil\$3) or conduct\$6) with TCNQ  | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 14:58 |
| S21 | 5   | (tunable or gradient) with (thickness or concentration) and (hole adj2 inject\$7) with TCNQ  | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 14:59 |
| S22 | 0   | TCNQ with acceptor   | US-PGPUB; USPAT | ADJ | ON  | 2009/10/28 15:01 |

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| S23 | 399 | TCNQ with acceptor  | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:02 |
| S24 | 6   | TCNQ with acceptor and<br>(gradiant or tunable)               | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:02 |
| S25 | 110 | TCNQ with (hole adj2 inject<br>\$3)                           | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:05 |
| S26 | 0   | TCNQ with (hole adj2 inject<br>\$3) near5 gradient            | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:05 |
| S27 | 0   | TCNQ with (hole adj2 inject<br>\$3) with gradient             | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:05 |
| S28 | 4   | TCNQ with (hole adj2 inject<br>\$3) with concentration        | US-PGPUB;<br>USPAT | ADJ  | ON  | 2009/10/28<br>15:06 |
| S29 | 2   | "20020086180"   | US-PGPUB;<br>USPAT | OR   | OFF | 2009/10/28<br>17:41 |
| S30 | 774 | (Kim near2 myung).in.   | US-PGPUB;<br>USPAT | OR   | OFF | 2010/04/29<br>14:15 |
| S31 | 31  | (Kim near2 myung).in. and<br>(EL with device)                 | US-PGPUB;<br>USPAT | OR   | ON  | 2010/04/29<br>14:16 |
| S33 | 280 | (hole adj2 inject\$3) with<br>acceptor                        | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>15:39 |
| S34 | 1   | (hole adj2 inject\$3) with<br>acceptor with gradient          | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>15:40 |
| S35 | 24  | (hole adj2 inject\$3) with<br>acceptor with concentrat\$5     | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>15:42 |
| S36 | 0   | (hole adj2 inject\$3) with<br>acceptor with discontin\$5      | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>15:43 |
| S37 | 110 | (hole adj2 inject\$3) near4<br>acceptor                       | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>16:07 |
| S38 | 0   | (hole adj2 inject\$3) near4<br>acceptor near4 gradient        | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>16:07 |
| S39 | 14  | (hole adj2 inject\$3) near4<br>acceptor and gradient          | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>16:08 |
| S40 | 5   | (hole adj2 inject\$3) near4<br>acceptor with<br>concentration | US-PGPUB;<br>USPAT | OR   | ON  | 2010/09/17<br>16:22 |
| S41 | 4   | acceptor concentration<br>gradient and (428/690).<br>cols.    | US-PGPUB;<br>USPAT | WITH | ON  | 2010/09/17<br>16:33 |
| S42 | 1   | "6558219".pn.   | US-PGPUB;<br>USPAT | WITH | ON  | 2010/09/17<br>16:49 |
| S43 | 27  | acceptor gradient and<br>(hole adj3 inject\$3)                | US-PGPUB;<br>USPAT | WITH | ON  | 2010/09/17<br>17:11 |
| S44 | 415 | acceptor concentration and<br>(hole adj3 inject\$3)           | US-PGPUB;<br>USPAT | WITH | ON  | 2010/09/17<br>17:16 |
| S45 | 25  | acceptor concentration<br>with (hole adj3 inject\$3)          | US-PGPUB;<br>USPAT | WITH | ON  | 2010/09/17<br>17:17 |

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|-----|------|--|-----------------|------|-----|------------------|
| S46 | 283  | acceptor with (hole adj3 inject\$3)                                | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 17:20 |
| S47 | 38   | acceptor near3 gradient  | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 22:34 |
| S48 | 0    | TCNQ near3 gradient concentration                                  | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:18 |
| S49 | 22   | acceptor near3 gradient concentration                              | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:18 |
| S50 | 183  | gradient concentration and (313/504).ccls.                         | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:19 |
| S51 | 4    | acceptor gradient concentration and (313/504).ccls.                | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:20 |
| S52 | 11   | acceptor gradient concentration                                    | DERWENT         | WITH | ON  | 2010/09/17 23:21 |
| S53 | 225  | dop\$4 gradient concentration                                      | DERWENT         | WITH | ON  | 2010/09/17 23:22 |
| S54 | 0    | (dop\$4 gradient concentration) near5 (hole inject\$4)             | DERWENT         | WITH | ON  | 2010/09/17 23:22 |
| S55 | 0    | (dop\$4 gradient concentration) near5 (hole inject\$4)             | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:23 |
| S56 | 2130 | dop\$4 gradient concentration                                      | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:23 |
| S57 | 31   | dop\$4 gradient concentration with hole                            | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:23 |
| S58 | 11   | dop\$4 grad\$7 (hole adj2 inject\$3)                               | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:38 |
| S59 | 633  | dop\$4 grad\$7 and (hole adj2 inject\$3)                           | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:41 |
| S60 | 266  | dop\$4 gradient and (hole adj2 inject\$3)                          | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:41 |
| S61 | 8    | dop\$4 gradient with (hole adj2 inject\$3)                         | US-PGPUB; USPAT | WITH | ON  | 2010/09/17 23:46 |
| S62 | 0    | gradient with (hole adj2 (inject\$3 or transpot\$3)) with acceptor | US-PGPUB; USPAT | ADJ  | OFF | 2010/09/20 09:21 |
| S63 | 1    | (hole adj2 (inject\$3 or transpot\$3)) with acceptor               | US-PGPUB; USPAT | ADJ  | OFF | 2010/09/20 09:22 |
| S64 | 0    | gradient with acceptor with hole (313/504).ccls.                   | US-PGPUB; USPAT | ADJ  | ON  | 2010/09/20 09:43 |
| S65 | 1    | gradient with acceptor with hole and (313/504).ccls.               | US-PGPUB; USPAT | ADJ  | ON  | 2010/09/20 09:44 |
| S66 | 212  | acceptor with hole and (313/504).ccls.                             | US-PGPUB; USPAT | ADJ  | ON  | 2010/09/20 09:44 |

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|-----|------|---|-----------------|------|----|------------------|
| S67 | 22   | acceptor with hole and (313/504).ccls. and gradient         | US-PGPUB; USPAT | ADJ  | ON | 2010/09/20 09:45 |
| S68 | 10   | (acceptor with concentration) with hole and (313/504).ccls. | US-PGPUB; USPAT | ADJ  | ON | 2010/09/20 09:47 |
| S69 | 1    | H000029.pn.   | US-PGPUB; USPAT | WITH | ON | 2010/09/20 10:14 |
| S70 | 0    | "2004185299"  | US-PGPUB; USPAT | WITH | ON | 2010/09/20 10:30 |
| S71 | 1    | "20040185299"   | US-PGPUB; USPAT | WITH | ON | 2010/09/20 10:30 |
| S72 | 45   | (reduced or lowered or less) with acceptor with interface   | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:36 |
| S73 | 4758 | (reduced or lowered or less) with acceptor                  | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:40 |
| S74 | 2027 | reduced with acceptor                                       | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:40 |
| S75 | 0    | reduced with acceptor (428/690).ccls.                       | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:41 |
| S76 | 89   | reduced with acceptor and electrolumin\$7                   | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:41 |
| S77 | 13   | (reduced with acceptor) with hole and electrolumin \$7      | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:41 |
| S78 | 5299 | (leak adj2 current) with (low\$3 or suppres\$6 or acceptor) | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:56 |
| S79 | 26   | (leak adj2 current) with acceptor                           | US-PGPUB; USPAT | WITH | ON | 2010/09/20 11:56 |
| S80 | 1    | "6278136".pn.   | US-PGPUB; USPAT | WITH | ON | 2010/09/20 12:01 |
| S81 | 18   | acceptor concentration and (428/690).ccls.                  | US-PGPUB; USPAT | WITH | ON | 2010/09/29 10:43 |
| S82 | 23   | acceptor concentration and (313/504).ccls.                  | US-PGPUB; USPAT | WITH | ON | 2010/09/29 10:45 |
| S83 | 6    | acceptor adj concentration and (313/504).ccls.              | US-PGPUB; USPAT | WITH | ON | 2010/09/29 11:10 |
| S84 | 1654 | acceptor adj concentration                                  | US-PGPUB; USPAT | WITH | ON | 2010/09/29 11:17 |
| S85 | 80   | acceptor adj concentration and electrolumin\$7              | US-PGPUB; USPAT | WITH | ON | 2010/09/29 11:17 |
| S86 | 1    | "20080038583"   | US-PGPUB; USPAT | OR   | ON | 2011/01/11 15:32 |

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| S87 | 18 | (hole adj3 injection adj layer) with conduct\$7 with thickness and (428/690).ccls. | US-PGPUB; USPAT | OR  | ON | 2011/01/11 15:34 |
| S88 | 43 | (hole adj3 injection adj layer) with conduct\$7 with thickness and (313/504).ccls. | US-PGPUB; USPAT | OR  | ON | 2011/01/11 15:35 |
| S89 | 8  | TCNQ with acceptor and (427/66).ccls.  | US-PGPUB; USPAT | ADJ | ON | 2011/01/11 15:36 |

### EAST Search History (Interference)

| Ref # | Hits | Search Query   | DBs                   | Default Operator | Plurals | Time Stamp       |
|-------|------|--|-----------------------|------------------|---------|------------------|
| S90   | 18   | (hole adj3 injection adj layer) with conduct\$7 with thickness and (428/690).ccls. | US-PGPUB; USPAT; UPAD | OR               | ON      | 2011/01/11 15:35 |
| S91   | 43   | (hole adj3 injection adj layer) with conduct\$7 with thickness and (313/504).ccls. | US-PGPUB; USPAT; UPAD | OR               | ON      | 2011/01/11 15:35 |
| S92   | 0    | TCNQ with acceptor and (427/66).ccls.  | USPAT; UPAD           | ADJ              | ON      | 2011/01/11 15:36 |

1/11/2011 3:46:28 PM

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